IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	Group Art Unit: 1633
	)	
Kyuhyun LEE et al.	)	Examiner: HIRIYANNA,
	)	KELAGINAMANE T
	)	
Serial No.: 10/584,383	)	Confirmation No.: 3667
	)	
Filed: 06/26/2006	)	
	)	
For: THERAPEUTIC AGENT FOR TREATMENT OF CANCER COMPRISING HUMAN APOLIPOPROTEIN (A) KRINGLES LK68 OR LK8 GENES AS EFFECTIVE INGREDIENT, AND METHOD FOR TREATING CANCER USING THE SAME	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SECOND DECLARATION SUBMITTED UNDER 37 C.F.R. § 1.132

Sir:

I, Eui Cheol Jo of MOGAM Biotechnology Research Institute, do hereby declare the following:

1. I am a Research Fellow in the department of Biomedical Engineering Division at MOGAM Biotechnology Research Institute.

2. As attested by my *curriculum vitae* submitted with the Declaration under 37 C.F.R. 1.132 on June 21, 2007, I am knowledgeable and skilled in the field of genetic diagnosis, especially with respect to cancer diagnostic marker.

3. I am an inventor in the above-identified application, serial number: 10/584,383.

4. I have read and understand the subject matter of the above-identified application, the Office Actions mailed January 24, 2007 and September 7, 2007, and the claims as previously presented.

5. The following are my comments offered in support of the patentability of the instant invention, particularly, in connection with the alleged rejection under 35 USC 35 U.S.C. §112, first paragraph regarding alleged non-enablement of vectors other than plasmid or adeno-associated viral vector (rAAV) in the Office Action mailed September 7, 2007.

In the present study, the therapeutic potential of replication deficient adenovirus carrying LK8 and LK68 genes (rAd-LK8 and rAd-LK68) in the treatment of NSCLC was evaluated. Adenovirally produced LK8 and LK68 proteins inhibited VEGF and FGF-stimulated endothelial cell migration in vitro by more than 80% ($P<0.01$ versus the negative control group), which was tenfold superior to the activity exerted by the same molecules derived from recombinant microbes. Intratumoral administration of rAd-LK8 and rAd-LK68 significantly suppressed subcutaneously xenografted A549 and NCI-H460 NSCLC tumor growth, and prolonged survival. The mean survival time of the treated mice was significantly longer than that of the controls ($P<0.04$). Immunohistochemical analysis of the tumor sections demonstrated a statistically significant reduction in microvessel density and increase in tumor apoptosis, but with indistinguishable proliferating nucleated tumor cell population. These results reflect the anti-angiogenic anti-tumor effect of rAd-LK8 and rAd-LK68.

6. I conclude that the above described experiments and data are consistent with the disclosure in the above-identified patent application (10/584,383). The experiments and data are representative examples of using gene carriers containing LK68 or LK8 genes as disclosed in the application. These representative examples provide evidence to a skilled person or artisan that any gene carrier known in the art, harboring and expressing LK68 or LK8 gene, may be used as disclosed to treat a solid tumor or its metastasis. The above-described experimental data from animals indicate that Adnoviral vectors, as exemplified by rAd-LK8 and rAd-LK68, as well as any gene carrier, may be used to express LK68 or LK8 to treat a solid tumor or its metastasis.

7. The undersigned hereby declares that all statements made herein based upon knowledge are true, and that all statements made based upon information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATED: January 16 2008 Eui-Cheol Jo

Name: Eui-Cheol Jo